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I, JONNE YABSLEY, TEAM LEADER EXAMINATION SUPPORT AND SALES hereby certify that annexed is a true copy of the Provisional specification in connection with Application No. PR 9967 for a patent by KELLIE WALKER as filed on 15 January 2002.

WITNESS my hand this
Twenty-third day of January 2003

JR Yabsley

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PROVISIONAL SPECIFICATION

APPLICANT: KELLIE WALKER
NUMBER:
FILING DATE:

Invention Title: DISPENSING OF HEARING AIDS

The invention is described in the following statement:-

DISPENSING OF HEARING AIDS

This invention relates to the dispensing of hearing aids and, in particular, to a device which aids in such dispensing and which is particularly applicable to programmable hearing aids.

The device enables the hearing impaired person to get a truer and more accurate indication of the sound output of a hearing aid.

Many modern hearing aids the aids are programmable. Programmability of hearing aids enables them to be able to be adapted to individual's hearing impairment and, as such, can provide an aid which is more acceptable than was previously the case.

As hearing aids can cost up to $6,000.00 or more, it is essential that the dispenser who is testing hearing and prescribing particular aids ensures that the aids are going to be most suitable for a particular client.

Testing is usually performed with an audiometer which is used to test a range of frequencies from 125Hz to 8000Hz with a decibel range from -20dB to 120dB. This can be done either by using headphones or ear insertions and provides the dispenser with an audiogram of a client's hearing and thus an indication of his/her impairment.

The audiometer results enable programming of a "demonstration" behind the ear hearing aid. The output of this can be amplified into the client's ear so that an indication can be provided to the client as to the desired amplification properties required to compensate for the hearing impairment.

The difficulty which occurs from such use is that whilst the amplification of sound may be relatively accurate, the impression to the client is often not.

Most custom made hearing aids or custom made ear moulds incorporate a vent and, depending upon the types of hearing impairment and the correction necessary, these vents can have variable diameters and can also extend a further or lesser distance into the ear canal.

It is these vents which give the user an accurate impression of their own voice and are thus critical for acceptance and use of a hearing aid by the client.

As the aids are cast for a particular person, once a practitioner decides on a form of vent, it is not always possible to change this. Although, the manufacturer can increase or decrease the size of the vent.

It has not previously been possible to fully ascertain the optimum venting during testing procedures and it is an object of the invention to do this.

The invention includes, for use in testing the perception of hearing and the required amplification of a hearing aid, a plug adapted to be received in a client's ear which has passing therethrough a tube which carries the output sound from a source into the ear and passing through the same plug there is also a tube which acts as a vent.

The sound source would normally be a hearing aid programmed to compensate for the client's disability.

The tube which acts as a vent can have different diameters and different lengths to enable the optimum size and position of the vent in a programmed hearing aid to be ascertained.

In order that the invention may be more readily understood I shall describe a particular form of the invention by way of exemplification.

The invention includes an ear plug of a resilient material which is adapted to be located in a client's ear and to effectively reduce occlusion in the ear canal.

The material from which this plug is made can vary widely but will normally be a foam material which can be compressed whilst the plug is inserted but, once inserted, moulds the client's ear canal so as to make good contact with the skin.

Passing through the plug there is a first tube which acts as a sound tube from the output of a hearing aid which, for convenience, could be a behind the ear aid but could equally well be a bench mounted device usable for test purposes.

Also passing through the plug there is a vent aperture which can preferably be a synthetic plastics tube which has a wall thickness sufficient not to be unduly distorted when the plug is placed in the ear.

The practitioner would have a set of these plugs, which are preferably disposable, having vents of differing diameters.

There may even be formed with, say, a flared inner end so that they can closely match vents which are used with hearing aids.

In order to test the effectiveness of the proposed hearing aid the aid is first programmed to satisfy what is believed to be the required correction for the particular client. Depending upon the extent and type of hearing impairment, the plug which has a vent member passing through which, in the opinion of the dispenser, is likely to give an optimum result is selected.

The hearing aid is then trialed by the client either to consider a range of prerecorded sounds or otherwise, and the client speaks with the aid in position, and, from this, the practitioner can identify whether the aid is effective as far as correction of the hearing

loss is concerned and, further, whether it gives the client comfort both as far as the sound is concerned and, particularly, the sound of his/her own voice.

If it is believed that the trial is not optimum it is possible to replace the plug with a plug with a different vent to see whether this gives a more satisfactory result. Increasing the vent to reduce occlusion or decreasing to avoid feedback.

Once the best arrangement has been achieved then the client can have a good indication as to how effective a hearing aid manufactured for the client and having the particular properties would be and, provided he/she is satisfied, then the dispenser can take normal impressions of the client's ears and order a hearing aid having the desired physical properties.

Whilst the invention may seem deceptively simple, it is a substantial improvement in an art where the client may be expected to spend very substantial sums of money without any guarantee that the final product will be acceptable to him/her.

Whilst I have described one form of plug which may be used with the invention it is stressed that this is only exemplary and other forms of plugs could be used and, for example, the two tubes could be formed as a single unit with the material of the plug moulded thereover to provide a basis for fitting or, as described herein, the plug may be a cylinder or the like of a readily deformable material through which the tubes are passed.

All such variations and modifications are deemed to be within the spirit and scope of the invention.

DATED this 15 day of January, 2002

KELLIE WALKER
By Her Patent Attorneys
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